

REMARKS

Claims 1 – 33, 35 – 43, 46 – 52, 58, 60 and 61 are pending in the application and all stand rejected. Specifically the Examiner rejected claims 1 – 11, 13, 15 – 17, 19 – 24, 33, 35 – 43, 47 – 51, 60 and 61 under 35 U.S.C. 103 (a) as being obvious in light of Bjornson and Tanaka, and the remainder of the claims were rejected under 35 U.S.C. 103 as being obvious in light of Bjornson and Tanaka in view of various references.

The primary Bjornson reference teaches the monitoring of machine parameters to discover machine part defects, but does not teach or suggest the monitoring of end product quality control data and correlating that data with machine parameter data relating to machine part defects. The Examiner attempts to argue that the secondary Tanaka reference, when combined with Bjornson, teaches Applicant's monitoring of end product quality control data and correlating that data with machine parameter data relating to machine part defects. However, Tanaka teaches only the use of statistical analysis techniques to assess a collection of machine part data to determine the optimal machine parameters for producing high quality end products. Tanaka does not teach or suggest "at least partially correlating the inputted product quality control measurement data regarding a possible product defect to the information relating to the at least one part ... where said at least partially correlating assists in locating a possible part defect," as is recited, for example, in claim 1 of the present Application. Further, when Bjornson and Tanaka are combined, the resulting system would statistically analyze machine parameter data to assess machine part parameter data, and would perform statistical analysis to determine optimal machine parameters, but would still not teach or suggest correlating end product quality

control data with machine parameter data relating to machine part defects. Thus, the cited combination would not render the claimed invention and would not provide or perform the desired result.

As Applicant argued in its last response and discussed with the Examiner in a telephonic interview, the present application discloses and claims a system to be utilized in an environment where products are produced utilizing various parts including machinery – SEE paragraph 0075 of the specification. The invention claimed is a system that measures product quality data regarding a possible product defect using various devices (measuring quality of product produced) and correlates the data to information relating to parts used in the manufacture of product to assist in locating a possible part defect, which may have caused the product defect. Specifically, claim 1 recites “at least partially correlating the inputted product quality control measurement data regarding a possible product defect to the information relating to the at least one part ... where said at least partially correlating assists in locating a possible part defect.”

The Examiner appears to agree that none of the prior cited references (Bjornson, Peterson, Kruse, Kelly, Himmel, Pascucci and Xie) teach or suggest the combination of inputting product quality data and inputting part information and correlating the two for the purpose of determining a part defect. However, the Examiner has further cited Tanaka, stating that while Bjornson does not teach “explicitly receiving product quality control measurement data regarding products being produced by the process to determine possible process defects,” Tanaka “teaches ... extracting abnormal factors in a processing operation including means for receiving product quality control measurement data regarding a possible defect of a product being produced by the process.”

Clearly, Tanaka teaches a multiple regression analysis methodology utilized to determine the optimal process parameters by looking at statistical data and changing the process parameters based on statistical analysis to produce the greatest yield. *See* Col. 4, ll. 45-51. To the contrary, the present invention recites “at least partially correlating the inputted product quality control measurement data regarding a possible product defect to the information relating to the at least one part ... where said at least partially correlating assists in locating a possible part defect.” Thus, when Bjornson is combined with Tanaka, the two still do not teach or suggest each claimed limitation of Applicant’s system, namely the correlation of product quality control data and machine parameters to correlate possible machine part defects.

Specifically, Tanaka teaches only a statistical analysis technique for determining optimal machine parameters through, effectively, trial and error. Tanaka’s teachings include highly complex statistical analysis, such as multi-stage multi-variate analysis for determining optimum operating conditions based on product output. *See* Col. 4, ll. 23-30 (discussing first and second stage multi-variate analysis). Thus, Tanaka is essentially a trial and error system for determining the machine parameters and conditions that will yield higher quality integrated circuits in which potentially non-optimal “explanation variables” are narrowed by multi-variate statistical analysis. Col. 2, ll. 4-8. Tanaka specifically stating that it relates to a means “for analyzing the causal relationship between the product quality results information and other information which affects the quality of products.” Col. 1, ll. 20-23. This statement, when viewed in connection with the prevalence of statistical analysis techniques contained in the Tanaka reference, is a testament of Tanaka’s purpose of determining the operating parameters that product high quality products through statistical analysis. Tanaka’s applications are quite different from those espoused by the

Examiner, and indeed are quite different from those of Applicant's system, which detects part defects through the correlation of out of tolerance machine data and product quality control data.

The teachings of Tanaka demonstrate the differences between the uses of its methods and those of Applicant's claims. For example, Tanaka states that when "the product is manufactured in small amount, e.g., statistically insufficient, the data on different data types of products manufactured with the same conditions is collected to cover the shortage of information." Col. 3, ll. 41-44. Substituting data from *different products* is something that could only be done during a statistical analysis to determine optimal machine parameters, and would *completely* circumvent the purpose of Applicant's system -- a user of Applicant's system would not be able to correlate or locate part defects if substitute data were used. Applicant's system uses quality control data specific to identified products and correlates that data with operations data specific to identified machines during a given period of time. Using other data in Applicant's system would result in false defect determinations, and is only appropriate when large data samples are necessary to determine optimal operations parameters.

Thus, combining Tanaka with Bjornson still does not teach all of the limitations in Applicant's claims. Thus, the combination of these two references does not result in the claimed invention, nor does it result in an apparatus or process for the intended purpose or with the intended function of Applicant's claimed system. A combination of the two systems would result in a system in which machine parameter tolerances are monitored to determine when such machines are defective (Bjornson), and in which end products are monitored to determine optimal tolerances (Tanaka), but would still not teach correlating end product quality control data

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with machine operation data to help correlate or locate machine part defects in the manufacture process.

Therefore, Applicant respectfully submits that a combination of Bjornson and Tanaka, and of any of the other cited references, does not teach all limitations of Applicant's claims. Based on the above remarks, the Applicant asserts that the claims are in condition for allowance and requests that the claims as amended herein be allowed to proceed to issuance.

If any issue regarding the allowability of any of the pending claims in the present application could be readily resolved, or if other action could be taken to further advance this application such as an Examiner's amendment, or if the Examiner should have any questions regarding the present amendment, it is respectfully requested that the Examiner please telephone Applicant's undersigned attorney in this regard.

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Respectfully submitted,



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